

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-20 are pending in the application, with claims 1 and 11 being the independent claims. Claims 1, 2, and 11 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

In the Office Action, claims 1, 3-6, 10-15, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Timm *et al*, U.S. Patent No. 6,055,268 (Timm) in view of Watanabe, U.S. Patent No. 5,432,632 (Watanabe). Applicant respectfully traverses this rejection.

Amended independent claim 1 recites:

a plurality of demodulators, wherein each of the plurality of demodulators demodulates a different one of the plurality of frequency bands of the multi-tone, multi-band signal, wherein each of the plurality of demodulators utilizes a different sampling rate, and wherein each demodulator includes a discrete Fourier transform module that performs a discrete Fourier transform on the plurality of tones within one of the plurality of frequency bands.

Amended independent claim 11 recites:

dividing the multi-tone, multi-band signal into a plurality of data signals, each data signal having a plurality of tones in one of the plurality of frequency bands; and
demodulating each of the plurality of data signals in a separate demodulator using a discrete Fourier transform, wherein each demodulator utilizes a different sampling rate.

The combination of Timm and Watanabe fails to teach or suggest every feature recited in amended independent claims 1 and 11. In rejecting the claims, the Examiner acknowledges that Timm does not teach "that a receiver comprises a plurality of demodulators, wherein each of the plurality of demodulators demodulates a different one of the plurality of frequency band signals" (Office Action, p. 3). Thus, for at least this reason, Timm is different than the claimed invention.

Watanabe does not provide the teachings missing from Timm. Watanabe describes a plurality of demodulators arranged in parallel. (Watanabe, FIG. 4). Each of the demodulators "extracts each of the subcarrier components close to each of the center frequencies" of the channels. Watanabe does not teach or suggest that each of the demodulators utilizes a different sampling rate to process the received signals. As described in Applicant's specification, in prior art arrangements such as Watanabe, "even low frequency received signals have to be sampled at a sampling speed dictated by the highest frequency of the multi-band signal." (Specification, p. 8, lines 28-30). Thus, Watanabe does not teach or suggest "a receiver for demodulating a multi-tone, multi-band signal" having "a plurality of demodulators ... wherein each of the plurality of demodulators utilizes a different sampling rate," as recited in amended claim 1 or "a method of demodulating a multi-tone, multi-band signal" including "demodulating each

of the plurality of data signals in a separate demodulator ...wherein each demodulator utilizes a different sampling rate," as recited in amended claim 11.

Applicant therefore respectfully submits that the combination of Timm and Watanabe fails to teach or suggest all the features of independent claims 1 and 11. Therefore, Applicant requests favorable consideration of independent claims 1 and 11. For at least these reasons, and further in view of their own features, claims 3-6 and 10 which depend from claim 1, and claims 12-15 and 17 which depend from claim 11 are patentable over Timm and Watanabe, alone or in combination. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

Timm and Watanabe in view of Lee

In the Office Action, claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Timm and Watanabe as applied to claim 1, and further in view of Lee, *et al.*, U.S. Patent No. 5,818,296 (Lee). Applicant respectfully traverses this rejection. Claim 2 depends from claim 1. Lee does not overcome all of the deficiencies of Timm and Watanabe relative to claim 1 described above. For at least these reasons, and further in view of its own features, claim 2 is patentable over the combination of Timm, Watanabe, and Lee. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

Timm and Watanabe in view of Ho

Claims 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Timm and Watanabe as applied to claim 6, and further in view of Ho, *et al.*, U.S. Patent

5,317,596 (Ho). Applicant respectfully traverses this rejection. Claims 7 and 8 depend from claim 1. Ho does not overcome all of the deficiencies of Timm and Watanabe relative to claim 1, described above. For at least these reasons, and further in view of their own features, claims 7 and 8 are patentable over the combination of Timm, Watanabe, and Ho. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

Timm and Watanabe in view of Agee

Claims 9 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Timm and Watanabe as applied to claims 1 and 11, and further in view of Agee, *et al*, U.S. Patent 6,128,276 (Agee). Applicant respectfully traverses this rejection. Claim 9 depends from claim 1 and claim 16 depends from claim 11. Agee does not overcome all of the deficiencies of Timm and Watanabe relative to claims 1 and 11 described above. For at least these reasons, and further in view of their own features, claims 9 and 16 are patentable over the combination of Timm, Watanabe, and Agee. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

Timm and Watanabe in view of Feher

Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Timm and Watanabe as applied to claim 1, and further in view of Feher, *et al*, U.S. Patent 6,470,055 (Feher). Applicant respectfully traverses this rejection. Claim 18 depends from claim 1. Feher does not overcome all of the deficiencies of Timm and Watanabe relative to claim 1 described above. For at least these reasons, and further in view of its

own features, claim 18 is patentable over the combination of Timm, Watanabe, and Feher. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

Timm and Watanabe in view of Kahre

Claims 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Timm and Watanabe as applied to claim 1, and further in view of Kahre, *et al*, U.S. Patent 5,680,388 (Kahre). Applicant respectfully traverses this rejection. Claims 19 and 20 depend from claim 1. Kahre does not overcome all of the deficiencies of Timm and Watanabe relative to claim 1 described above. For at least these reasons, and further in view of their own features, claims 19 and 20 are patentable over the combination of Timm, Watanabe, and Kahre. Reconsideration and withdrawal of the ground of rejection is therefore respectfully requested.

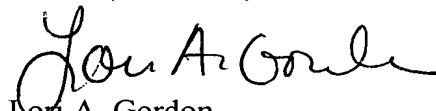
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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Date: Apr 1 26, 2005

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